CLAIMS

What is claimed is:

1. A method of providing a payment service including the steps of:

processing a payment service request having independent identification information and a pair of ATM network compatible PINs, including the steps of:

validating said independent identification information; and

generating an ATM network transaction message containing at least a selected one of said pair of ATM network compatible PINs based at least in part on said validating step; and

forwarding said ATM network transaction message to a financial institution over an ATM network for payment.

2. The method of claim 1 further including the step of:

providing a data storage device for interacting with a network access device; said data storage device having said pair of ATM network compatible PINs stored thereon; wherein each one of said pair of ATM network compatible PINs is independently encrypted and different from one another.

3. The method of claim 2 further including the step of:

generating said payment service request including said pair of ATM network compatible PINs and independent identification information.

4. The method of claim 3 further including the step of authorizing payment to a payee.

5. The method of claim 3 wherein said payment service request further includes an amount.

6. The method of claim 4 wherein said payment service request further includes an amount.

7. The method of claim 1 wherein said independent identification information comprises an electronic personal identification number.

8. The method of claim 1 wherein said validating step includes:

providing an independent identification information offset;

providing a transaction identifier representing an account number; wherein said transaction identifier does not represent said user's account number;

combining said user identification information and said offset to validate said user; and

associating said user identification information and said offset with said transaction identifier to validate a user.

9.   The method of claim 7 wherein said validating step includes:

providing an independent identification information offset;

providing a transaction identifier representing an account number; wherein said transaction identifier does not represent said user's account number;

combining said user identification information and said offset to validate said user; and

associating said user identification information and said offset with said transaction identifier to validate a user.

10.   The method of claim 9 wherein based at least in part on said validating step said ATM network transaction message includes a valid ATM network compatible PIN.

11.   The method of claim 9 wherein said ATM network transaction message includes an invalid ATM network compatible PIN.

12.   The method of claim 1 wherein said payment service request further includes a payee.

13.   The method of claim 1 further including inputting said independent identification information at a network access device.

14.   The method of claim 7 further including inputting said independent identification information at a network access device.

15.   The method of claim 7 wherein said electronic personal identification number comprises a number other than a user's ATM network compatible PIN.

16.   A data storage device having a data structure stored thereon, said data storage device for use by an application program, comprising:

said data structure characterized by:

        a plurality of data fields stored thereon, at least some of said data fields containing segments of data; said data representing information relating to financial transactions;

wherein said data fields are arranged in a predetermined sequence so that said data representing information relating to financial transactions can be obtained by selecting one of two or more subsets of said data fields in a respective predetermined order.

17. The data storage device of claim **16** wherein said data representing information relating to financial transactions includes data representing identification and verification information.

18. The data storage device of claim **17** wherein said identification and verification information includes an ATM network compatible PIN.

19. The data storage device of claim **17** wherein said identification and verification information includes a pair of different ATM network compatible PINs.

20. The data storage device of claim **17** wherein said identification and verification information includes information relating to a particular bank account.

21. The data storage device of claim **20** wherein said information relating to a particular bank account includes an ATM network compatible PIN valid for said particular bank account and an ATM network compatible PIN not valid for said particular bank account.

22. The data storage device of claim **16** wherein said data storage device includes a plurality of data structures.

23. The data storage device of claim **22** wherein said plurality of data structures represent a corresponding plurality of bank accounts.

24. The data storage device of claim **17** wherein said identification and verification information includes track-2 data.

25. The data storage device of claim **24** wherein said track-2 data includes data representing a bank identification number.

26. The data storage device of claim **24** wherein said track-2 data includes data representing a primary account number.

27. The data storage device of claim **24** wherein said track-2 data includes data representing a primary account number.

28. The data storage device of claim **16** wherein said identification data includes customer demographic information.

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29.   The data storage device of claim **16** further including advertising data stored thereon.

30.   The data storage device of claim **16** further including data representing a primary account number stored thereon; wherein said data representing a primary account number is one other than one used to identify a user's bank account; and wherein said data is used for tracking said financial transaction.

31.   The data storage device of claim **16** wherein said data storage device comprises an optical disk.

32.   The data storage device of claim **16** wherein said data storage device comprises a floppy disk.

33.   The data storage device of claim **16** wherein said data storage device comprises a magnetic, optical or electrical storage medium.

34.   A method of transferring data over a network from a user network access device connected to said network to a server connected to said network under control of said server comprising the steps of:

providing a data storage device having a data structure including data segments stored thereon, said data storage device for access by an application program;

operatively connecting said data storage device to said user network access device;

retrieving data from said data storage device; wherein said retrieving step includes the steps of:

        randomly selecting a first of a set of predetermined sequences for retrieving at least some of said data segments;

        randomly adding additional segments to be selected from said first of a set of predetermined sequences to form a new sequence;

        gathering segments of data from said data storage device in accordance with said new sequence;

transmitting said segments of data to said server; and

sampling said transmitted data to reconstruct said segments of data in accordance with said first of a set of predetermined sequences.

35.   The method of claim **34** wherein said data storage device comprises:

said data structure used by said application program and characterized in that:

a plurality of data fields are stored thereon, at least some of said data fields containing said data segments; said data representing information relating to financial transactions;

wherein said data fields are arranged in a predetermined sequence so that said data representing information relating to financial transactions can be obtained by selecting one of two or more subsets of said data fields in a respective predetermined order.

36. The method of claim **34** wherein said transmitting step further includes transmitting with said segments an identifier associated with said transmission.

37. The method of claim **36** wherein said identifier includes a plurality of identifiers.

38. The method of claim **36** further including validating said transmission based at least in part on said identifier.

39. The method of claim **37** further including validating said transmission based at least in part on said identifier.

40. A system for providing a payment service including:

a processor for processing a payment service request having independent identification information and a pair of ATM network compatible PINs, said processor configured to:

validate said independent identification information;

generate an ATM network transaction message containing at least a selected one of said pair of ATM network compatible PINs based at least in part on said validation; and .

forward said ATM network transaction message to a financial institution over an ATM network for payment.

41. The system of claim **40** further including:

a data storage device for interacting with a network access device; said data storage device having said pair of ATM network compatible PINs stored thereon; wherein each one of said pair of ATM network compatible PINs is independently encrypted and different from one another.

42. The system of claim **41** wherein said processor is further configured to generate said payment service request including said pair of ATM network compatible PINs and independent identification information.

43.   The system of claim **42** wherein said financial institution authorizes payment to a payee.

44.   The system of claim **43** wherein said payment service request further includes an amount.

45.   The system of claim **44** wherein said payment service request further includes an amount.

46.   The system of claim **40** wherein said independent identification information comprises an electronic personal identification number.

47.   The system of claim **40** wherein said processor is further configured to validate said independent identification information by:

providing an independent identification information offset;

providing a transaction identifier representing an account number; wherein said transaction identifier does not represent said user's account number;

combining said user identification information and said offset to validate said user; and

associating said user identification information and said offset with said transaction identifier to validate a user.

48.   The system of claim **46** wherein said processor is further configured to validate said independent identification information by:

providing an independent identification information offset;

providing a transaction identifier representing an account number; wherein said transaction identifier does not represent said user's account number;

combining said user identification information and said offset to validate said user; and

associating said user identification information and said offset with said transaction identifier to validate a user.

49.   The system of claim **48** wherein based at least in part on said processor validation said ATM network transaction message includes a valid ATM network compatible PIN.

50.   The system of claim **48** wherein based at least in part on said processor validation said ATM network transaction message includes an invalid ATM network compatible PIN.

51. The system of claim **40** wherein said payment service request further includes a payee.

52. The system of claim **40** further including an input device for inputting said independent identification information at a network access device.

53. The system of claim **46** further including an input device for inputting said independent identification information at a network access device.

54. The system of claim **46** wherein said electronic personal identification number comprises a number other than a user's ATM network compatible PIN.

55. A system for transferring data over a network from a user network access device connected to said network to a server connected to said network under control of said server comprising:

a data storage device having a data structure including data segments stored thereon, said data storage device for access by an application program;

said data storage device operatively connected to said user network access device;

said server having said application program stored thereon; wherein said application program retrieves data from said data storage device; wherein said application program

randomly selects a first of a set of predetermined sequences to retrieve at least some of said data segments;

randomly adds additional segments to be selected from said first of a set of predetermined sequences to form a new sequence;

gathers segments of data from said data storage device in accordance with said new sequence; and

transmits said segments of data to said server; and

said server samples said transmitted data to reconstruct said segments of data in accordance with said first of a set of predetermined sequences.

56. The system of claim **55** wherein said data storage device comprises:

said data structure used by said application program and characterized by:

a plurality of data fields stored thereon, at least some of said data fields containing said data segments; said data representing information relating to financial transactions;

wherein said data fields are arranged in a predetermined sequence so that said data representing information relating to financial transactions can be obtained by selecting one of two or more subsets of said data fields in a respective predetermined order.

57.   The system of claim **55** wherein said application program further transmits with said segments an identifier associated with said transmission.

58.   The system of claim **56** wherein said identifier includes a plurality of identifiers.

59.   The system of claim **56** wherein said server is further configured to validate said transmission based at least in part on said identifier.

60.   The system of claim **57** said server is further configured to validate said transmission based at least in part on said identifier.

61.   A method of a providing payment service comprising the steps of:

providing an encoded data storage device to a user; said encoded data storage device including:

data representing a first ATM network compatible PIN; wherein said first ATM PIN is a valid ATM PIN associated with said user's account at a financial institution;

data representing a second ATM network compatible PIN; wherein said second ATM PIN is an invalid ATM PIN not associated with said user's account at said financial institution;

providing independent identification information associated with said user's account at said financial institution;

validating said independent identification information;

generating a payment service request including a selected one of said first ATM PIN or said second ATM PIN based upon said validating step; and

forwarding said payment service request to said user's financial institution over an ATM network for further processing.

62.   The method of claim **61** wherein encoded data storage device further includes a primary account number associated with said user's bank account stored thereon.

63.   The method of claim **61** wherein said encoded data storage device further includes a bank identification number stored thereon.

64.   The method of claim **61** wherein said generated payment service request is stored by a merchant for forwarding to a financial institution at a selected time.

65.   The method of claim **61** wherein said forwarded payment service request is forwarded to said financial institution a plurality of times.

66.   The method of claim **61** wherein said independent identification information comprises an electronic personal identification number.

67.   The method of claim **61** wherein said payment service request further includes an amount.

68.   The method of claim **61** wherein the step of forwarding said payment service request to said user's financial institution over an ATM network for further processing further includes authorizing payment to a payee.

69.   The method of claim **61** wherein a merchant provides said independent identification information and data representing said first ATM network compatible PIN and said second ATM network compatible PIN received by a user to a processor for validating said independent identification information and generating said payment service request.

70. A method of providing a payment service comprising the following steps:

providing a data storage device to a user for interacting with a network access device connected to a network; said data storage device having a pair of encrypted ATM network compatible PINs and an primary account number (PAN) stored thereon

generating a payment service request including said pair of encrypted ATM network compatible PINs, said PAN and an electronic personal identification number (e-PIN);

providing a processor;

receiving said payment service request at a location remote from said network access device;

generating a payment service message at said location remote from said network access device by adding an amount, and a payee to said pair of encrypted ATM network compatible PINs, said PAN and said e-PIN;

transmitting said payment service message over an ATM network switch to said processor;

processing said payment service message at said processor, including the steps of:

decrypting at least some of said encrypted information and determining if said e-PIN is proper to generate and communicate a message from said processor to said user's bank resulting in debiting of user's bank account electronically substantially in real-time including the step of generating a digital ATM network transaction message containing at
5   least a selected one of said pair of ATM network compatible encrypted user PINs and said amount and applying said message to said ATM network; and

authorizing payment to said payee.

10   71.   The method of claim **70** wherein said data storage device is encoded.

72.   The method of claim **71** wherein said PAN is encoded.

73.   The method of claim **72** including the step of providing a fabricated PAN for
15   tracking said payment service message.

74.   The method of claim **70** wherein said location remote from said network access device comprises a server.

20   75.   The method of claim **74** wherein said server comprises a merchant server.

76.   The method of claim **74** wherein said processor is remote from said server.

77.   A system for providing a payment service including:
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first means for generating a payment service request having independent identification information and a pair of ATM network compatible PINs;

second means for validating said independent identification information;
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third means for generating an ATM network transaction message containing at least a selected one of said pair of ATM network compatible PINs based at least in part on said validation; and

35   fourth means for forwarding said ATM network transaction message to a financial institution over an ATM network for payment.

78.   The system of claim **77** further including:

40   fifth means for storing data and interacting with a network access device; said data storage means having said pair of ATM network compatible PINs stored thereon; wherein each one of said pair of ATM network compatible PINs is independently encrypted and different from one another.

45   79.   The system of claim **78** wherein said financial institution authorizes payment to a payee.

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80.   The system of claim **79** wherein said payment service request further includes an amount.

5   81.   The system of claim **80** wherein said payment service request further includes an amount.

82.   The system of claim **77** wherein said independent identification information comprises an electronic personal identification number.

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83.   The system of claim **77** wherein said second means is further configured to validate said independent identification information by:

providing an independent identification information offset;

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providing a transaction identifier representing an account number; wherein said transaction identifier does not represent said user's account number;

combining said user identification information and said offset to validate said user; and

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associating said user identification information and said offset with said transaction identifier to validate a user.

84.   The system of claim **83** wherein said second means is further configured to

25   validate said independent identification information by:

providing an independent identification information offset;

providing a transaction identifier representing an account number; wherein said

30   transaction identifier does not represent said user's account number;

combining said user identification information and said offset to validate said user; and

associating said user identification information and said offset with said transaction

35   identifier to validate a user.

85.   The system of claim **85** wherein based at least in part on said second means validation said ATM network transaction message includes a valid ATM network compatible PIN.

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85.   The system of claim **85** wherein based at least in part on said second means validation said ATM network transaction message includes an invalid ATM network compatible PIN.

45   87.   The system of claim **77** wherein said payment service request further includes a payee.

88.   The system of claim **77** further including an input means for inputting said independent identification information at a network access device.

5   89.   The system of claim **83** further including an input means for inputting said independent identification information at a network access device.

90.   The system of claim **83** wherein said electronic personal identification number comprises a number other than a user's ATM network compatible PIN.

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